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# Utility incentive-based regulation in MA: History and current practice

Transition to the Future Grid Event 2



1

## Timeline & Trends

- ▶ Frameworks
- ▶ Incentive Mechanisms

2

## Frameworks

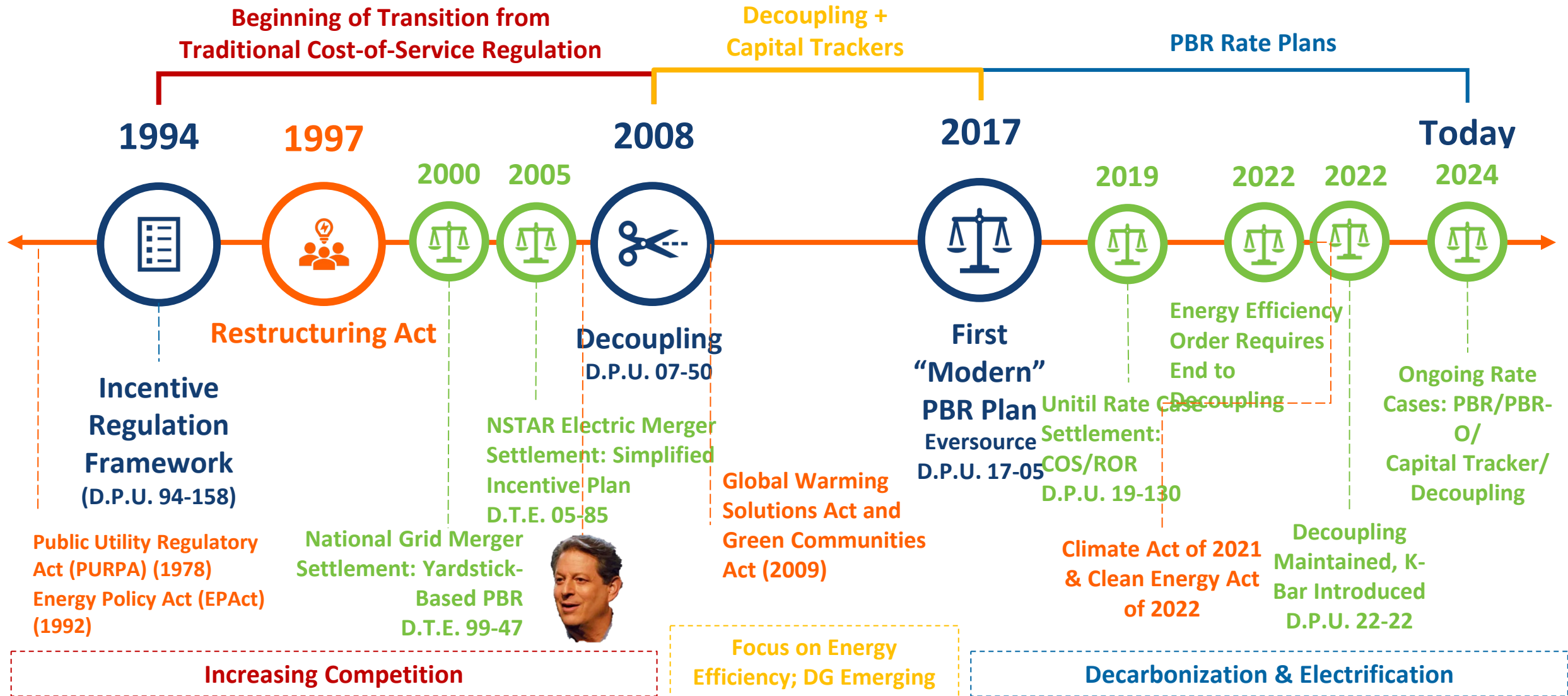
- ▶ MA Performance-Based Ratemaking Model
- ▶ Decoupling and Capital Trackers

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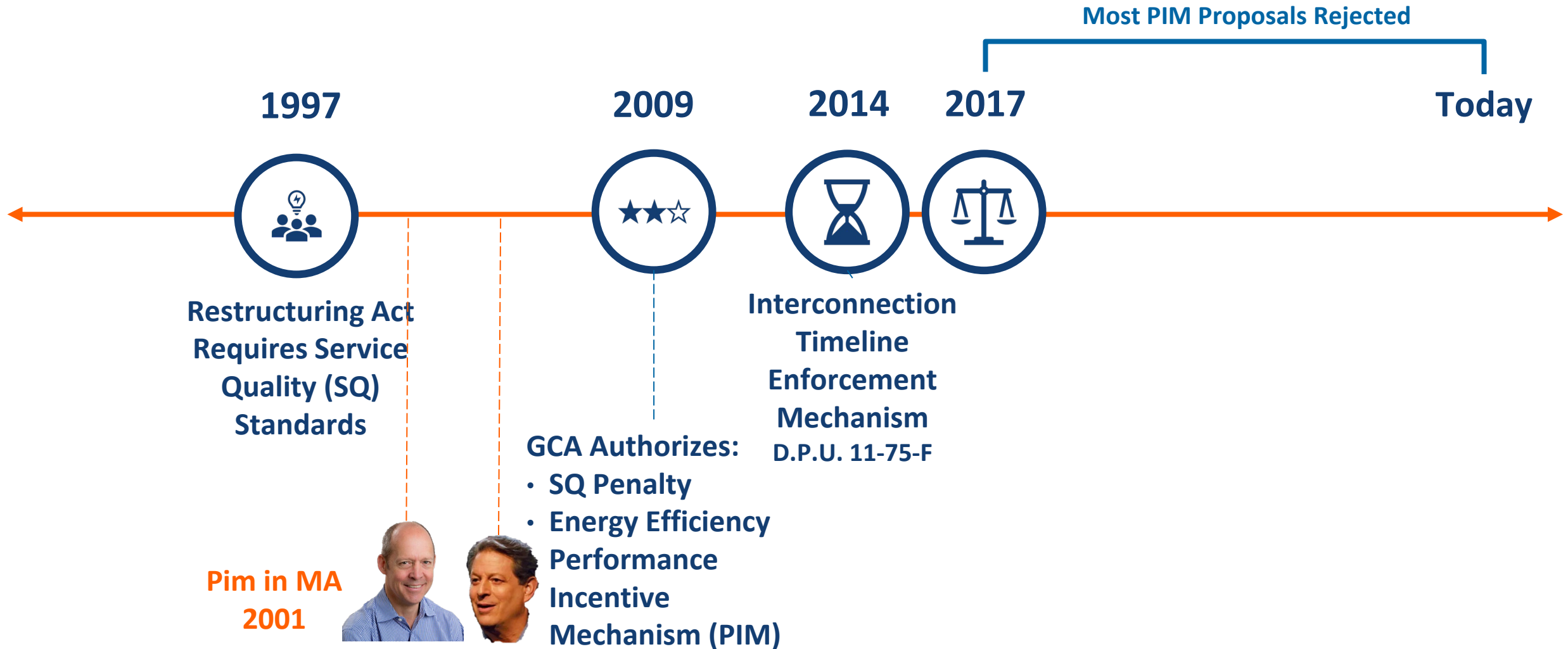
## Incentive Mechanisms

- ▶ Performance Incentives & Penalty Mechanisms
- ▶ Trends in PIM Development

# Milestones and Trends: Regulatory Frameworks



# Milestones and Trends: Incentive Mechanisms



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## Regulatory Frameworks

- Decoupling and Capital Trackers
- Performance-Based Ratemaking

2

## Incentive Mechanisms

- Service Quality
- Energy Efficiency Performance Incentive Mechanism
- Interconnection Timeline Enforcement Mechanism

# Decoupling + Capital Trackers Era: 2008-2017

## Problem

Incentive to sell more kWh & disincentive for clean, cheap demand resources (EE, demand response, DG)

## Decoupling

(Note: The Revenue Cap in the MA PBR Framework is subject to decoupling)

## Capital Tracker

Allows utility to recover incremental capital investment annually

## Problem

Decoupling reduces available “extra” funding from sales growth

Recoupling?

## Problem

Capital tracker reduces regulatory lag  
“Lag” is the time between cost incurred and recovered; utility assumes risk that they do not recover costs. Enforces discipline on spending, including balancing capital and O&M

## Investment Caps

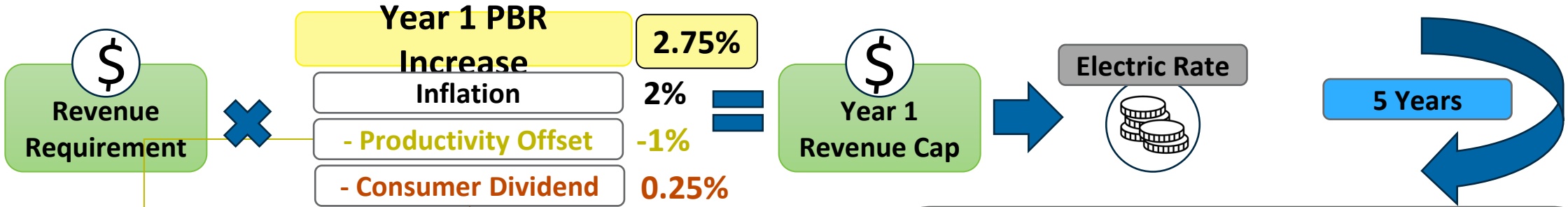
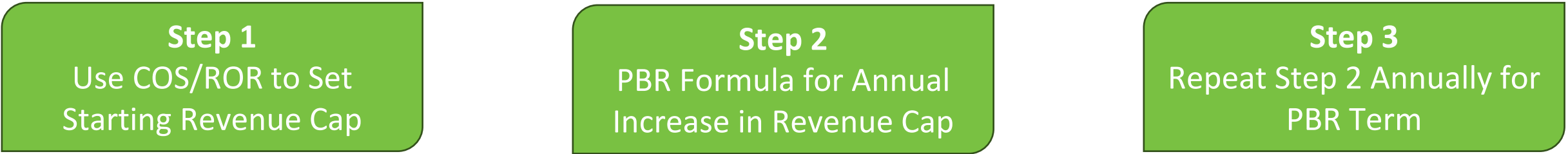
(1) Provide sufficient funding to ensure safe & reliable service; (2) protect ratepayers from overinvestment in capital

## Next Problem

In early 2022, DPU ordered an end to Decoupling, due to the need to incentivize electrification. When and how?



# Performance-Based Ratemaking Era: 2017-Present



**Inflation measure is economy-wide. Offset accounts for a difference in productivity of the electric sector, compared to the economy.**

**Share of efficiency gains with ratepayers**

**What is the incentive?** 3% (adjusted inflation) estimates what is needed to track cost increases. If the utility can find efficiencies that result in spending less, they can keep the difference (e.g., they spend 102% of original target revenue on system maintenance, investment, and servicing debt, the 0.75% “extra” is profit)

- Additional Features**
- **Earnings sharing mechanism** (kicks in if earnings are too high)
  - **Stay-out provision** (to ensure administrative efficiency benefits)
  - **Exogenous cost factor** (to adjust rates if unforeseen circumstances increase utility cost)
  - **Scorecard metrics** (annual reporting to monitor outcomes)
  - **K-Bar** (adjust capital recovery to allow for increasing investment)





# Why use the PBR Method?



## Intended Benefits

- **Cost efficiency:** Formula designed to incentivize cost efficiency
- **Flexibility:** Less regulatory oversight of changes in spending, beneficial during times of rapid change in the industry
- **Stability:** Rates increase predictably and consistently
- **Administrative efficiency:** Can avoid/stretch the period between rate cases



## Primary Criticisms

- **Difficult to measure** increase in efficiency
- **Rate increases are not justified** by demonstrated benefits to ratepayers
- **Too generous to utility**, too costly for ratepayers (especially with recent high inflation)
- **Does not incentivize policy objectives** (scorecard metrics lacking)

# PBR Scorecard Metrics



## Customer Satisfaction & Engagement

J.D. Power Scores, Surveys, Digital transaction, Use of outage maps



## Low-Income Terminations

J.D. Power Scores, Surveys, Digital transaction, Use of outage maps



## Producer/Developer Satisfaction

Use of hosting capacity maps, Surveys, Interconnection timeline



## Resiliency

All-in SAIDI, MAIFI



## Peak Demand Reduction

Changes from company-owned solar, EE plan implementation, storage, etc.



## Climate Adaptation & Mitigation

Emissions from company operations

1

### Insufficient for aligning policy objectives

Tracking only, not tied directly to revenues

2

### Design is lacking

Many do not provide meaningful data and information. Likely a process issue (developed in litigious rate cases, instead of with full stakeholder consideration and input)

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## Regulatory Frameworks

- Performance-Based Ratemaking
- Decoupling and Capital Trackers

2

## Incentive Mechanisms

- Service Quality
- Energy Efficiency Performance Incentive Mechanism
- Interconnection Timeline Enforcement Mechanism

# Performance Incentive & Related Penalty Mechanisms

## Service Quality Guidelines

**1997 Restructuring Act:** Ensure that service quality remains high in light of PBR incentive for cost efficiency

**GCA (2009):** Mandated compliance and allowed penalties

**Benchmarks:** Required to get incrementally better over time (statistical “glidepath”) & to address poor performing circuits

**Penalty:** Based on magnitude of deviation from benchmarks; Max. of 2.5% of annual Transmission & Distribution revenues

1999

## Energy Efficiency Performance Incentive

**Origin:** Enabled by GCA (2009)

**Structure:** Earned incentive based on performance implementing Three-Year Energy Efficiency Plan

- Set incentive pool (<5% of EE budgets)
- Incentive earned based on benefits achieved, after meeting minimum threshold
- Specific PIM developed as part of each Three-Year Plan Cycle
- Benefits achieved measured based on vetted model

2009

## Interconnection Timeline Enforcement Mechanism

**Penalty mechanism** to enforce interconnection timeline expectations (as defined in Interconnection Tariff)

**Features:**

- Annual reporting
- Penalties or Offsets
- Deadband and Caps to limit penalties and offsets

**Current state:**

Most utilities avoid large penalties, yet interconnection queues continue to be a problem

2014





## Customer Satisfaction

- Service appointments kept as scheduled
- Complaints to the Consumer Division
- Customer credit cases



## Safety & Reliability

- **System-level** (SAIDI, SAIFI)
- **Circuit-level** (CKAIDI, CKAFI)
- **Customer-level** (CAIDI, CELID (long-duration outages), CEMI (multiple interruptions))
- **Power quality** (MAIFI)
- **Safety** (Downed wire response)

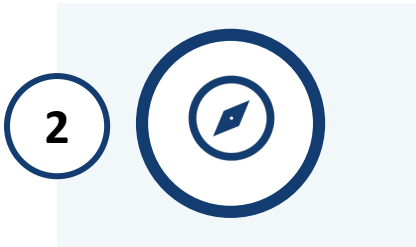
# Developing PIMs in Massachusetts

The DPU has not allowed many PIM proposals, concluding that they do not conform with PIM **Threshold Criteria** and **Design Guidelines**.



## Does it meet Threshold Criteria?

- 1) Advances a specific public policy goal
- 2) Affected activity is clearly outside of the utility's public service obligation



## Does it meet Design Guidelines?

- 1) PIM encourages program performance that best achieves MA energy goals
- 2) Enables a comparison of i) clearly defined, verifiable targets, to ii) the cost of achieving the target to the benefits
- 3) Utility plays a distinct role in bringing about the desired outcome
- 4) Should be consistent across utilities
- 5) Avoid perverse incentives
- 6) Utility is not rewarded for the same action elsewhere

# Closing: How do existing incentives stack up?

